

# **2024 Annual Ongoing Data Requirements Report**

**Data Requirements Rule for the 2010 Sulfur Dioxide Standard**



**Submittal Due Date  
July 1, 2024**

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## Purpose and Background

The Missouri Department of Natural Resources' Air Pollution Control Program (Air Program) has prepared this report as the state's stand-alone annual ongoing data requirements report for the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (2010 SO<sub>2</sub> Standard). This report is intended to fulfill the annual reporting requirements of the federal SO<sub>2</sub> data requirements rule (DRR), 40 CFR Part 51 Subpart BB, "*Data Requirements Rule for Characterizing Air Quality for the Primary SO<sub>2</sub> NAAQS*". According to the rule, the Air Program must submit the annual ongoing data requirements report to the U.S. Environmental Protection Agency (EPA) on July 1 each year to meet the reporting requirements in 40 CFR 51.1205 (b):

*“(b) Modeled areas. For any area where modeling of actual SO<sub>2</sub> emissions serve as the basis for designating such area as attainment for the 2010 SO<sub>2</sub> NAAQS, the air agency shall submit an annual report to the EPA Regional Administrator by July 1 of each year, either as a stand-alone document made available for public inspection, or as an appendix to its Annual Monitoring Network Plan (also due on July 1 each year under 40 CFR 58.10), that documents the annual SO<sub>2</sub> emissions of each applicable source in each such area and provides an assessment of the cause of any emissions increase from the previous year. The first report for each such area is due by July 1 of the calendar year after the effective date of the area's initial designation.*

*(1) The air agency shall include in such report a recommendation regarding whether additional modeling is needed to characterize air quality in any area to determine whether the area meets or does not meet the 2010 SO<sub>2</sub> NAAQS. The EPA Regional Administrator will consider the emissions report and air agency recommendation, and may require that the air agency conduct updated air quality modeling for the area and submit it to the EPA within 12 months.”*

Missouri currently includes four areas that are subject to the ongoing reporting requirements for modeled areas under the DRR. On January 9, 2018, EPA designated Jasper, Greene, and Randolph Counties, as well as a portion of St. Louis County as attainment/unclassifiable for the 2010 SO<sub>2</sub> standard.<sup>1</sup> These designations were based on modeling analyses the Air Program performed utilizing actual SO<sub>2</sub> emissions, meaning they were subject the reporting requirements in 40 CFR 51.1205 (b).

The Air Program submitted the first annual report pursuant to 40 CFR 51.1205(b) in 2017. The first two reports the Air Program submitted included only one area (Scott County), because the other five areas had not yet been designated. The reports submitted in 2019-2021 all included six areas in Missouri. In the report submitted in 2021, the Air Program provided updated modeling and requested to remove the Sikeston facility (Scott County) from the annual report, which EPA approved in 2022 pursuant to 40 CFR 51.1205(b)(2). In the report submitted in 2022, the Air Program provided updated modeling and requested to remove Montrose Power Station (located in Henry County) from the annual report, which EPA approved in 2023 pursuant to 40 CFR 51.1205(b)(2). Therefore, only four areas/facilities in Missouri remain subject to the ongoing data requirements report.

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<sup>1</sup> 83 FR 1098, January 9, 2018

## 2023 Annual Emissions

Per 40 CFR 51.1205 (b), the Air Program is required to document the annual SO<sub>2</sub> emissions of all modeled DRR sources. Table 1 lists the four modeled DRR sources in Missouri and details their respective annual actual SO<sub>2</sub> emissions in 2023. The Air Program acquired emission data from EPA's Clean Air Markets Division (CAMD) database, which is based on Continuous Emissions Monitoring System (CEMS) data measured in compliance with 40 CFR Part 75.

**Table 1 – 2023 Actual Annual SO<sub>2</sub> Emissions for Missouri's Modeled DRR Sources**

DRR Facility Name	County Name	DRR Facility FIPs	2023 SO <sub>2</sub> Emissions (tons)
Meramec	St. Louis	(189-0010)	0
Asbury	Jasper	(097-0001)	0
John Twitty City Utilities	Greene	(077-0039)	2,509
Thomas Hill	Randolph	(175-0001)	11,289

## Comparison of 2023 Emissions to Previous Year

Per 40 CFR 51.1205 (b), the Air Program is required to provide an assessment of the cause of any emissions increase from the previous year for all modeled DRR sources. Table 2 provides the 2022 and 2023 actual annual SO<sub>2</sub> emissions for the four modeled DRR sources along with the difference in annual emissions between the two years. As seen in the table, from 2022 to 2023, emissions remained constant or decreased at all four DRR sources.

**Table 2 – 2022 and 2023 Emissions Comparison for Missouri's Modeled DRR Sources**

DRR Facility Name	2022 SO <sub>2</sub> Emissions (tons)	2023 SO <sub>2</sub> Emissions (tons)	2022-2023 Comparison*
Meramec	309	0	-309
Asbury	0	0	0
John Twitty City Utilities	3,153	2,509	-644
Thomas Hill	13,534	11,289	-2,245

\*A positive value in the last column indicates an increase in emissions from 2022 to 2023; a negative value indicates a decrease in emissions from 2022 to 2023.

## Assessment of Annual Emission Increases from 2022 to 2023

As stated above, the Air Program must provide an assessment of the cause of any emissions increase from the previous year for the modeled DRR sources. As shown in Table 2 above, annual SO<sub>2</sub> emissions decreased or remained constant at all four DRR facilities. Therefore, no assessment of annual emission increases is necessary for this report.

## Recommendations Regarding Updated Modeling

In addition to the assessment of the annual SO<sub>2</sub> emissions fluctuations for each modeled DRR source, 40 CFR 51.1205 (b)(1) requires the Air Program to provide a recommendation in this annual report as to whether updated modeling is needed to characterize air quality in the areas surrounding all modeled DRR sources to determine whether the areas continue to meet the 2010 SO<sub>2</sub> standard. Based on the information and assessment set forth below, the Air Program recommends no updated dispersion modeling analysis is needed for any of Missouri's modeled DRR sources.

In determining the appropriate recommendation regarding the need for any updated dispersion modeling analysis, the appropriate assessment should compare emission characteristics in the most recent year with the emission characteristics that were modeled for the DRR sources to inform their initial attainment designations. Factors for consideration in such a comparison may include total annual emissions, the level of the modeled design value from the initial modeling analysis, other relevant facility-specific information, and where appropriate, hourly emission profiles, or daily maximum 1-hour emission rates.

The Air Program's assessment to determine the appropriate recommendation regarding the need for updated modeling first evaluates the average annual emission totals that were modeled for the four DRR sources. The Air Program then compared these values against the actual annual emissions from 2023 for the same sources. In the modeling used to inform the initial designations, the modeled emissions from Missouri's four modeled DRR sources demonstrated compliance with the 2010 SO<sub>2</sub> standard. Therefore, if actual emissions in the most recent year are lower than the modeled emissions, it is reasonable to assume any updated modeling analysis utilizing the lower emission levels from the more recent year would also demonstrate compliance with the standard.

Table 3 shows the average annual modeled emissions, the modeled design values, and the modeled emission years used to inform the initial attainment designations for the four modeled DRR sources. The table also provides the 2023 actual emissions for these four facilities and a comparison of the 2023 emissions to the average annual modeled emissions. For all four modeled DRR sources, the 2023 actual emissions are less than the average annual modeled emissions used to inform the initial attainment designation (either 2012-2014 or 2013-2015, as applicable). Therefore, any additional modeling for the four sources where emissions in 2023 were less than the modeled emissions would likely result in lower maximum-modeled design values than those listed in Table 3. This supports a recommendation for no updated modeling at any of these sources.

**Table 3 – Modeled Design Values and Comparison of Modeled Emissions to 2022 Actual Emissions for Missouri's Modeled DRR Sources**

<b>DRR Facility Name</b>	<b>Maximum Modeled Design Value (ppb)</b>	<b>Years of Modeled Emissions Data</b>	<b>Average Annual Modeled SO<sub>2</sub> Emissions (tons)</b>	<b>2023 Actual SO<sub>2</sub> Emissions (tons)</b>	<b>Comparison - Modeled Emissions vs. 2023 Emissions (tons)*</b>
Meramec	52.98 <sup>^</sup>	2013-2015 <sup>^</sup>	5,541 <sup>^</sup>	0	-5,541
Asbury	67.5	2012-2014	6,695	0	-6,695
City Utilities John Twitty	42.9	2013-2015	2,759	2,509	-250
Thomas Hill	52.1	2013-2015	16,582	11,289	-5,293

\* A positive value in the last column indicates the 2023 emissions were higher than the average annual modeled emissions; a negative value indicates 2023 emissions were lower than the average annual modeled emissions.

<sup>^</sup> The 2013-2015 average annual modeled emissions at Meramec in this table only include the average actual emissions from Units 3 and 4 during these three years. The 2013-2015 modeling performed for designations for the Meramec facility utilized 2013-2015 actual emissions from Units 3 and 4 and natural gas combustion in Units 1 and 2. An enforceable permit condition required exclusive use of natural gas in Units 1 and 2, effective starting in 2016.

The following discussions include facility-specific details considered in developing the Air Program's recommendations regarding the need for additional modeling for all four of Missouri's modeled DRR sources.

**Asbury, Jasper County - FIPS (097-0001)**

This facility had no SO<sub>2</sub> emissions in 2023. Therefore, the Air Program recommends no additional modeling is needed for the area surrounding the Asbury facility.

**Meramec, St. Louis County - FIPS 189-0010**

This facility had no SO<sub>2</sub> emissions in 2023. Therefore, the Air Program recommends no additional modeling is needed for the area surrounding the Meramec facility.

**City Utilities John Twitty, Greene County - FIPS 077-0039**

For this facility, the annual SO<sub>2</sub> emissions in 2023 was 250 tons/year lower than the average annual modeled emissions from 2013-2015. This is 9 percent decrease from the average annual modeled emissions used to inform the original attainment designation. Therefore, any additional modeling is expected to similarly demonstrate continued attainment in the area surrounding this source. The Air Program recommends no additional modeling is needed for the area surrounding the John Twitty facility.

**Thomas Hill, Randolph County - FIPS 175 0001**

For this facility, annual SO<sub>2</sub> emissions in 2023 were 5,293 tons/year less than the average annual modeled emissions from 2013-2015. This is a decrease of 32 percent between current actual emissions and the emissions the Air Program modeled to inform the original attainment designation. Therefore, any additional modeling is expected to similarly demonstrate continued attainment in the area surrounding this source. The Air Program recommends no additional modeling is needed for the area surrounding the Thomas Hill facility.

## **Public Inspection and Review**

As required in 40 CFR 51.1205, the Air Program will make the final stand-alone report available for public inspection and review on our public website. The final report will also be available for review at the Missouri Department of Natural Resources, Air Pollution Control Program, 1659 Elm St., Jefferson City, (573) 751-4817.

The Air Program is also making the proposed version of the report available for public review and comment prior to finalizing it, specifically –

- Notice of the availability of the proposed stand-alone ongoing data requirements report was posted on the program website by April 22, 2024.
- The Air Program will open a 30-day public comment period for the proposed report on April 22, 2024 after posting it on the website. The public comment period will close on May 23, 2024.
- After posting the proposed report, the Air Program will send an email announcement to notify the public of the availability of the report and the corresponding public inspection and comment period. Email recipients will include all individuals who have signed up to receive email updates for Air Program public notices.

## **Conclusion**

This report fulfills the Air Program's obligation to submit an annual ongoing data requirements report for Missouri's modeled DRR sources. The report includes an evaluation of the most current year of emissions data at the modeled sources, an assessment of the cause of any SO<sub>2</sub> emission increases at these sources from the previous year, and the Air Program's recommendations regarding the need for additional modeling to evaluate the continued attainment status for the areas surrounding these sources. The Air Program recommends that no additional modeling is needed for any of the modeled DRR sources.